## **ABSTRACT**

[063] A high-power ion sputtering magnetron having a rotary cathode comprising a conducting member disposed within the rotary cathode being made of an electrically conductive material for conducting electrical current from the power supply to the rotary cathode. The ion sputtering magnetron also has an electromagnetic field shield disposed between the conducting member and the drive shaft portion. The field shield is made of an electromagnetic field-permeable material such as a ferrous material for reducing damage to parts adjacent to the conducting member that are susceptible to inductive magnetic heating.